

# METHOD FOR FORMING NITRIDE READ ONLY MEMORY WITH INDIUM POCKET REGION

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## ABSTRACT OF THE INVENTION

10 First of all, a P-type semiconductor substrate is provided. Then  
an oxide-nitride-oxide layer is formed on the P-type semiconductor  
substrate. Afterward, a photoresister layer is formed on the oxide-  
nitride-oxide layer, and it is defined to form a plurality of photoresister  
regions on the oxide-nitride-oxide layers. The oxide-nitride-oxide layer is  
then etched to form a plurality of nitride read only memory cells.  
Subsequently, perform a poketed implantation with indium ions to form a  
15 plurality of pocket dopant regions under a plurality of nitride read only  
memory cells, respectively. Next, perform a N-type ion-implanting  
process to form a plurality of ion-implanting regions in the P-type  
semiconductor substrate between a plurality of nitride read only memory  
cells. Finally, a plurality photoresister regions are removed to form an  
20 nitride read only memory.